

REMARKS

Claims 1-7, 11-21, 28-34 and 38-55 are all of the pending claims, with claims 1, 28, 38, 45, 49, 52 and 53 being written in independent form.

In the November 3, 2005 final Office Action, The Examiner rejects claims 1, 2, 4-7, 12-21, 28, 29, 31-34, 38, 39, 41-46 and 48-53 under 35 USC § 102(e) as being anticipated by US 6,777,917 to Desprez et al. (“Desprez”); and claims 3, 11, 30, 40, 47, 54 and 55 under 35 USC § 103(a) as being obvious over Desprez in view of US 6,841,971 to Spee et al. (“Spee”).

Applicants respectfully traverse all of these rejections in view of the following remarks.

To more clearly define over the asserted references, Applicants amend independent claims 1, 28, 38, 45, 49, 52 and 53 to recite that the balancing of the capacitors “*occurs in two voltage ranges that are separated from each other.*” Example, non-limiting embodiment of this feature will be appreciated with reference to the figure of the instant application. Here, the balancing of the capacitors may occur in two voltage ranges (segments 8 of the voltage curve 4) that are separated from each other. Indeed, the two balancing voltage ranges are provided on either side of a correct charge voltage range (segment 7), which is defined between a relative low voltage level 3 and a relatively central voltage level 2. The claimed invention provides a balancing feature for voltages above and below the correct charge voltage range. At least this feature (as defined by the independent claims), in combination with the other features defined by the independent claims, is not taught or suggested relied upon by the prior art relied upon by the Examiner.

The Examiner relies heavily upon the Desprez reference to teach each and every feature defined by the independent claims. In so doing, the Examiner cites column 6 (lines 34+) of the reference to allegedly teach the claimed balancing feature. This rejection position is not convincing for the following reasons.

As pointed out in the February 3, 2006 Request for Reconsideration, Desprez is directed to a supercapacitor charging method. The disclosed method involves stepping down a charging current as the voltage of the supercapacitor increases. Thus, the various charging currents may occur in associated voltage ranges. According to Desprez’ straightforward disclosure, however, the voltage ranges associated with the charging currents are contiguous and/or overlapped (but not separated from each other).

For example, according to the cited portion of Desprez (i.e., col. 6, lines 34+), the charging method involves 4 phases. In Phase 1, a charging current is equal to 200 A. At this time, the voltage of the supercapacitor progressively increases. In Phase 2, the charging current remains at 200 A, and the voltage continues to increase. In Phase 3, when the voltage reaches 2.53 V, the charging current is ramped down from 200 A to approximately 55 A. At the same time, the voltage of the supercapacitor decreases. In Phase 4, the charging current is equal to 55 A. When the voltage of the supercapacitor again reaches 2.53 V, the charging current is reduced from 55 A to close to 0.

As demonstrated above, the various charging currents (i.e., 200 A, 55 A, and close to 0) are applied to charge the supercapacitor at various voltage ranges, which are contiguous and/or overlapped with each other. Certainly then, Desprez does not provide any teachings pertinent to balancing capacitors at two voltage ranges that are spaced apart from each other (and defined by three different voltage levels), as required by the independent claims.

CONCLUSION

In view of the above, Applicants earnestly solicit reconsideration and allowance of all of the pending claims.

Pursuant to 37 C.F.R. §§ 1.17 and 1.136(a), Applicants hereby petition for a two (2) months extension of time for filing a reply to the Office Action and submit the required \$450.00 extension fee herewith.

Should there be any matters that need to be resolved in the present application, the Examiner is respectfully requested to contact the telephone number of the undersigned below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

HARNESS, DICKY, & PIERCE, P.L.C.

By: 
Ray Hefflin/Reg. No. 41,060

P.O. Box 8910
Reston, Virginia 20195
(703) 668-8000

DJD/HRH:lmg